

# On the South African species of *Metarctia*, with the description of a new species.

by

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**METARCTIA** Wlk., Cat. Lep. III., p. 769 (1855)\*

Type: *rufescens* Wlk., from W. and S. Africa.

This genus is readily separated from the other **Amatidae** (*Syntomidae*) by hindwing having RS coincident with  $M_1$  while  $M_2$  is present; the rough hairiness of head, thorax and abdomen separates it from other allied genera.

The ♂ genitalia also prove this genus to be a natural group: the uncus and valves being of a similar type, the latter with a tendency to form an inward fold at costa and at termen; the vesica is without cornuti.

The genus seems to be confined to Africa, of the 39 species so far described, nine are also found in South Africa, to which I add another species new to science. *M. lateritia* has a wide distribution, ranging from Abyssinia down to South Africa, but it is not recorded from W. Africa north of the Orange River. Most other species come from western Africa and several of these also occur in South Africa.

## KEY TO THE SOUTH AFRICAN SPECIES.

- 1 a. Body and ground colour of both wings grenadine . . . . . *lateritia*.  
b. Body and wings not grenadine . . . . . 2.
- 2 a. Forewing fuscous with the veins narrowly and conspicuously lined with yellow; abdomen grenadine red . . . . . *flavivena*.  
b. Forewing with the veins not lined with yellow . . . . . 3
- 3 a. Costa of forewing broadly coloured with light orange-yellow; expanse 48—41 mm. . . . . *meteus*.  
b. Costa of forewing uniform to remainder of wing or darker than groundcolour . . . . . 4.
- 4 a. Cilia of both wings light orange-yellow; the body light orange-yellow or a little darker . . . . . 5.  
b. Cilia and body not light orange-yellow . . . . . 6.
- 5 a. Disc of forewing slightly, in hindwing even more so, semitransparent; antennal pectination black, expanse 38—37 mm. . . . . *bicolora*.  
b. Discs of wings not semitransparent, innermarginal area of hindwing light orange-yellow; veins of hindwing fuscous and prominent; body darker than in *meteus*; expanse 54—59 mm. . . . . *hewitti*.

\* Here, as well as in the case of the species, no synonyms or further references have been given as these can be found in Hampson's Lep. Phal. Vol. I., and in Seitz Macrolep., vol. XIV.

- 6 a. Hindwing very dark, of almost the same colour as the forewing . . . . . *benitensis*.
- b. Hindwing paler than forewing and of a different colour . . . . . 7.
- 7 a. Hindwing whitish or with a slight light buff tinge, forewing light buff to avellaneous . . . . . *pallida*.
- b. Hindwing with a pinkish tinge; forewing much darker than avellaneous . . . . . 8.
- 8 a. Hindwing tinged with light salmon-orange, base of forewing at inner margin with a distinct light salmon-orange patch, remainder of wing natal brown, often with a salmon-orange discal spot . . *rubripuncta*.
- b. Hindwing paler; forewing paler as a rule, without the salmon-orange basal patch and usually with a dark discal spot . . . . . 9.
- 9 a. Forewing avellaneous, often with a pinkish tinge; dark discal spot conspicuous . . . . . *crassa*.
- b. Forewing much darker, discal spot obsolescent, sometimes traces of a pale basal patch at inner margin . . . . . *rufescens*.

### **Metarctia rufescens** Wlk. (figs. 1 a—e).

*Metarctia rufescens* Wlk., Cat., Lep., III., p. 769 (1855).

♂ *genitalia*: uncus very broad at middle, suddenly tapering to a rounded point, well covered with bristly hairs above and with a slight ridge along the middle; valve very broad at base, suddenly contracted beyond middle to a broad rounded lobe; a broad fold from basal half of costa and another fold from termen till near base, not quite meeting the costal fold at middle of valve on inner side; aedoeagus as long as valve, thick at basal third and then suddenly narrowing; vesica issuing from terminal half of aedoeagus and from tip.

This species has a wide distribution, ranging from West Africa into the Union. I have this species from Natal, Transvaal and Southern Rhodesia. The colour of both wings seems to vary somewhat.

### **Metarctia lateritia** (figs. 2 a—c).

*Metarctia lateritia* H.-S., Aussereur. Schmett., fig. 274 (1855).

♂ *genitalia*: tergite rather broad; uncus broad with a rounded ridge at base on each side; valve with a rather narrow fold at base of costa, and a very narrow fold at termen which splits into a projection at middle of valve, at base of fold a rounded lobe is formed covered with many broad bristles (the shape and pointed tip of the valve is rather unusual in this genus); anellus a little less broad than in *rufescens*; aedoeagus longer than valve and slender.

This beautiful species has a very wide distribution being even recorded from Abyssinia. The fuscous filling between the veins of

the forewing varies in intensity from almost black till it entirely disappears, leaving the wing of ground colour. I have specimens of both forms from Natal, Transvaal, S. and N. Rhodesia.

***Metarctia rubripuncta* Hmps. (figs. 3 a—c).**

*Metarctia rubripuncta* Hmps., Lep. Phal., vol. I., p. 147, pl. V., f. 4 (1898).

♂ *genitalia*: tergite quite narrow; uncus long, suddenly ending in an abrupt, narrow, curved point; before the tip the uncus is very broad and well covered with bristly hairs; valve terminally ending in three lobes; upper lobe as a continuation of the costa, which has no fold; second lobe longest and from middle of termen, of even width, roundly pointed; third lobe short, as a continuation of tornus and of the same shape as in *lateritia* but shorter; no fold at inner margin; anellus broad and well chitinized; aedoeagus shorter than valve, stout at basal third.

The valve is of unusual development for this genus, even more than in *lateritia*, yet the moth in general appearance resembles *rufescens* so much that it is easily confused with it, especially when the discal spot of the forewing is obsolescent, as is often the case, I think.

The type is a ♀ from W. Africa, and another ♀ was known to Hampson from the Congo.

The specimens I take to be this species are of the Congo variety with pinkish hindwing, but the red discal spot is hardly visible or not at all, yet the basal macula is well developed. They are in my collection from Natal and Southern Rhodesia.

***Metarctia pallida* Hmps. (figs. 4 a—c).**

*Metarctia pallida* Hmps., A.M.N.H., (7) VIII., p. 170 (1901).

♂ *genitalia*: tergite moderately broad; uncus long, broad, hardly contracted at base, suddenly ending in a point, well covered with bristly hairs above; valve similar to that of *rufescens* but broad basal part shorter, more suddenly contracting beyond middle and there forming a long curved lobe; costal and inner marginal and terminal folds quite broad, very remote at base but tapering towards each other towards tip, where they meet; anellus quite broad and well chitinized; aedoeagus longer than valve, very thick at basal half, then slender.

This species occurs in the East- and West-coast areas and is in my collection from Pretoria only. The ♀ antennae are *very* shortly bipectinated, which is rather unusual as all other females have simple antennae; the pectae in both sexes are orange-buff.

**Metarctia benitensis** Holl. (figs. 5 a—c).

*Metarctia benitensis* Holl., Psyche, VI., p. 395 (1893).

♂ *genitalia*: tergite moderately broad; uncus contracted at base, then broad and suddenly curved, forming a fine point at tip; a slight ridge with bristly hairs at either side of the centre; valve with broad portion similar to *pallida* but ending at costa into a short, broad, rounded lobe which has a short pointed projection at tip; costal and inner marginal and terminal folds as in *pallida*; anellus very broad and well chitimized; aedoeagus shorter than valve, very stout at basal third.

This species was described from the Cameroons, but I have specimens from Pretoria, Natal and Cape Town.

**Metarctia flavivena** Hmps. (figs. 6 a—c).

*Metarctia flavivena* Hmps., A.M.N.H., (7) VIII., p. 169 (1901).

♂ *genitalia*: tergite short and broad, gradually merging into a short, broad, curved uncus which tapers to a point and is rather sparsely covered with hairs on upperside; valve rather long, basal portion and tip tapering so as to form a long base for attachment to the sternite, which is narrow and has a long saccus; folds on valve as in *pallida* but inner marginal fold not reaching base; anellus quite broad and well chitimized; aedoeagus as long as valve, basal third very thick, then slender and of even width.

This species cannot be confused with any other described so far; the yellow veins of the forewing being very conspicuous against the very dark back-ground.

Originally described from British East Africa and Mashonaland; a form of this species is also recorded from Abyssinia and another from Nigeria. I have specimens from N. and S. Rhodesia.

**Metarctia crassa** Feld. (figs. 7 a—c).

*Metarctia crassa* Feld., Reise Novara, IV., pl. 99, f. 16 (1874).

♂ *genitalia*: tergite rather broad and short; uncus contracted at base, then very broad, somewhat curved and suddenly ending in a well-chitimized sharp point; upper surface moderately covered with stout hairs, especially on a narrow ridge along the middle; valve of the same shape as in *flavivena* but the apical lobe a little shorter at base, this lobe also has a small pointed projection at tip; anellus broad and well chitimized; aedoeagus shorter than valve, rather stout and of almost even width.

This species looks like a pale variety of *rufescens* and is most readily separated from it by its rather conspicuous dark discal

macula in forewing; the ♂ genitalia show even greater difference in the valve, although the uncus is very similar.

Originally this species was described from the Cape, but I have specimens from Natal and the Transvaal.

***Metarctia bicolora* H.-S. (figs. 8 a—c).**

*Metarctia bicolora* H.-S.\*

♂ *genitalia*: tergite moderately broad and long; sternite with a long saccus; uncus well constricted at base, then broadening, slightly curved, tapering to a point; two slight lateral ridges over the length, which are well covered with stout hairs; valve about as broad as it is long, sub-triangular with the costa well arched and there with a broad fold, opposite fold narrower; anellus quite broad and well chitinized; aedoeagus longer than valve, slightly thicker at base, then a little constricted at middle, then tapering toward rounded tip.

I am certain this species is distinct from *meteus* as I have a big series of both. It is always much smaller; has no trace of a yellow border along the costa of the forewing (though there may be a few scattered yellow scales at base) and the hindwing is semi-hyaline. So far I have it from the forest region of Natal (Karkloof and Impetyeni Forest) and the larvae probably live on a different food plant to *meteus*. So far only males are known and I fully expect the ♀ to be wingless, as is the case in *meteus*.

***Metarctia meteus* Stoll. (figs. 9 a—c).**

*Sphinx meteus* Stoll., Pal. Exot., IV., pl. 347, fig. B (1782).

♂ *genitalia*: tergite quite broad, tapering to a point; sternite rather narrow and with a long saccus; uncus constricted at base, then suddenly broad, curved and tapering to a point, two parallel slight ridges over the length, covered with stiff hairs; valve slightly longer than broad, of same shape as in *bicolora* but larger and with the two folds meeting well before the tip; anellus quite broad and well chitinized; aedoeagus longer than valve, broad at base, then of even width and tapering to a point; ventrally, at base of aedoeagus,

\* The specimens in my collection agree perfectly with the description (except that Seitz gives body colour as red, but in the figure orangy-yellow) and figure given in Seitz Gross Schmett. vol. XIV., p. 53, pl. 6, and where the species is ascribed to Herrich-Schäffer. Yet, in the bibliography given by Seitz on p. 57, this species is ascribed to Walker, which is certainly incorrect. Walker's *bicolora* is correctly given by Hampson (Lep. Phal., I. p. 148) as a synonym of *meteus*; as Walker distinctly gives the costa of the forewing as luteous and Walker himself sinks his *bicolora* as a synonym of *meteus* (Cat. VIII., p. 1771).

I cannot find out where Herrich-Schäffer described his *bicolora* but most probably it is in Ausrereur Schmetterlinge, to which, unfortunately, I have no access. Curiously Walker on p. 1718 gives also a var. of *bicolora*, one that has the forewing luteous along the costa, after he has stated this also of his typical *bicolora*. Should this have been: "without luteous costa?" Pending future unraveling I retain the name *bicolora* H.-S. in the sense given by Seitz.

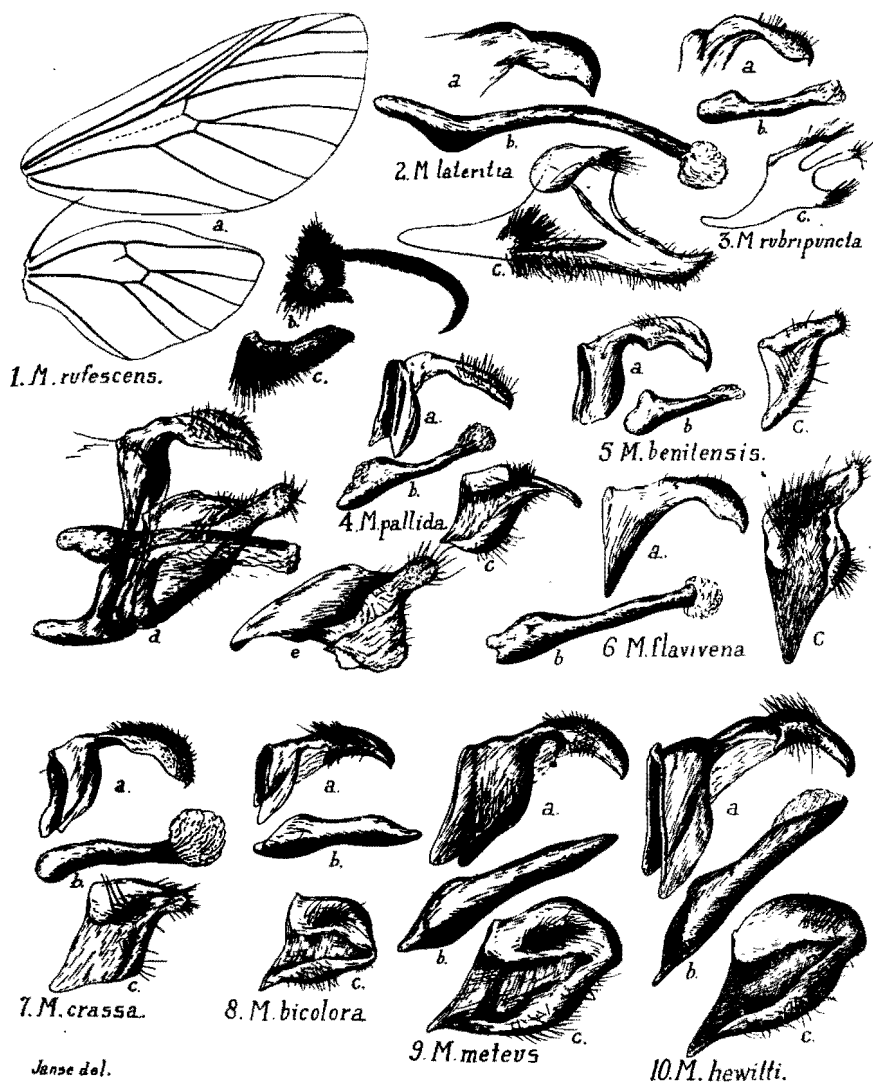


Fig. 1. *Metarctia rufescens*, a. wings,  $\times 3$ ; b. head,  $\times 3$ ; c. palpus,  $\times 7$ ; d.  $\sigma$  genitalia,  $\times 11$ . Figs. 2—10, a. uncus (with or without tergite); b. aedoeagus; c. right valve, all  $\times 11$ .

a well chitinized pointed plate on which the base rests; this is probably the juxta and is clearly visible also in *bicolora* and *hewitti* but not so in the other species of this genus.

Seitz states (vol. XIV., p. 54) that this species differs in venation from the other *Metarctia*, but I can find no essential difference here (neither in *bicolora* nor in *hewitti*), except that in the fore- and hindwing veins  $M_2$  and  $M_3$  may be from a point, but they may also be as in the figure given of *rufescens*. The only difference I can find is that the genitalia are of a slightly different type and that the ♀ is wingless, or almost so, and this I expect to be also the case in *bicolora* and in *hewitti* of which I have seen males only. Of all the other species of *Metarctia* I have seen females and they have normally developed wings.

The ♀ is uniform pale orange-yellow, the body is about three times the size of the ♂, the wing pads are less than half of the normal size, crumpled up and of uniform colour; head, mouth parts, thorax and legs also very much reduced in size.

I do not think the ♀ was known until Mr. H. K. Munro reared them, together with males, from caterpillars sent to him by Mrs. A. J. de Clercq, from Standerton. The larva according to E. E. Platt feeds on *Trema bracteolata* Blume.

A fuller account of the life-history will be given by Mr. H. K. Munro later.

The species seems to be restricted to the Transvaal, Natal and the Eastern Cape Colony.

***Metarctia hewitti* spec. nov. (figs. 10 a—c).**

♂. Head and thorax xanthine orange, tinged with chaetura drab below; abdomen and legs paler; cilia of both wings ochraceous-buff, forewing and hindwing suffused with chaetura drab, heavily so in forewing, lighter at inner marginal area of hindwing but very heavily in both wings on the veins; suffusion less heavily on under side; on upper and under side of both wings an ill-defined basal area sparsely covered with orange hairs; palpi and hairs around posterior half of eyes well suffused with chaetura drab; antennae with shaft ochraceous-orange, pectae ochraceous-tawny.

♂ genitalia: tergite moderately broad and with a strong ridge posteriorly; sternite rather narrow and with a short pointed saccus; uncus as long as tergite, strongly curved at middle and ending in a curved point; basal half of uncus very much constricted and with two lateral rounded lobes; valve almost as in *meteus* but a little longer in proportion to the width and with the costa more evenly and stronger arched; shape and size of aedoeagus as in *meteus* but the juxta is even more clearly visible and more pointed.

Exp: ♂ type 54 mm., paratype (from which the genitalia were prepared) 59 mm.

*Hab.* Both specimens came from van Rhyn's Dorp (nearly 200 miles North of Cape Town) collected by Mr. W. Hewitt in October, 1944, and after whom I have great pleasure in naming this species. Both specimens were kindly presented to the collection by Mr. C. G. Dickson of Cape Town.

This species resembles in size and general appearance *Metarctia incensa* Wlk., of which the precise locality is unknown, but the wings are there stated to be fuscous brown and the figure shows it of a Prout's brown colour. The figure as given for *incensa* in Seitz (vol. XIV, pl. 6 i) is obviously wrong and evidently a copy of Hampson's figure of *Pseudapiconoma flavimacula* Wlk. (Hmps. Lep. Phal. pl. VI. f. 12). Seitz's figure of *flaviciliata* Hmps. (pl. 6 d) could just as well be taken for a bad figure of *hewitti*, but in that species the body is scarlet and it comes from Uganda.

A careful study of the ♂ genitalia will have to decide the relation between those three species closely resembling each other.